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## (54) OPTICAL SWITCH

## (57) Abstract:

**PURPOSE:** To suppress the polarization dependency of polarized wave dispersion and an insertion loss and to improve the insertion loss and the cut-off characteristic.

**CONSTITUTION:** An input fiber 10, a first lens 12, a polarizer 14, a 45° Faraday rotator 16, an analyzer 18, a second lens 20 and an output fiber 22 are provided on the optical axis and an electromagnet 24 bi-directionally magnetizing the Faraday rotator 16 is provided. The polarizer 14 and the analyzer 18 are composed of the same wedge type birefringence plates, the tapered directions are mutually different by 180°, the opposed surfaces are parallel, the respective optical axes are parallel and made to be 45° viewing from

the optical axis. A compensation plate 30 composed of birefringence parallel plates is inserted on the optical axis between the first and the second lenses. The optical axis of the compensation plate 30 and the optical axis of the adjacent polarizer or the analyzer make 90° viewing from the optical axis, the compensator is inclined to the optical axis so as to make the shifting amount of beams match each other and cancel the delay and the optical axis of the compensation plate 30 is designed so as to be oblique to the plane.

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